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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,411	02/18/2004	Alfredo Li Preti	60,137-245	3061

26096 7590 11/18/2005

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EXAMINER
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LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/781,411

Applicant(s)

LI PRETI ET AL.

Examiner

Emmanuel S. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claim 1, 2, 4-10, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nennecker (5498151) in view of Takizawa et al (5770245).

Nennecker teaches a mold valve assembly with a bore (17) recognized as the mold valve chamber (17) having an output port (25), the chamber having a first axis (Fig. 2), the discharge passageway (36) is recognized as the injection chamber in communication with the mold valve chamber defining a second axis that is transverse to the first axis (Fig. 1, 1A), a rod (15) recognized as an injection piston in the injection chamber with a face, or end segment (32), that defines a portion of the mold valve chamber inner perimeter (Fig. 1A, 2A), the end segment is an arcuate segment (Fig. 2) and completes the inner perimeter of the mold valve chamber (Fig. 1A, 2A), the injection

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piston is a cylinder (see piston 12 that operates in a bore 14). The causing rod (21) is recognized as the mold valve piston that is movable in the mold valve chamber, the valve recognized to inherently scrape the end segment during operation as seen in Figure 1A.

Nennecker fails to teach an air injection system in communication with the mold valve chamber and the valve piston that is movable to block the air inlet through the mold valve chamber.

Csongor teaches an injection molding apparatus having gas introduction into the system.

It would have been obvious to one of ordinary skill in the art to modify Nennecker with a gas introduction system as taught by Csongor within a plunger because it allows for gas injection into the mold.

In regards to claims 15 and 17, this is an intended use of the apparatus in regards to method steps of when to inject the gas after the article has cured in the molded cavity. This is not given weight and only the structural limitation is given weight in an apparatus claim.

4. Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nennecker (5498151) in view of Csongor (5939015) as applied to claims 1, 2, 4-10, 15, and 17 above, and further in view of Takizawa (2002/0124988).

Nennecker fails to teach a non-metallic portion between a first and second metallic portion and an interference fit.

Takizawa teaches a piston (32) having seal rings (31). These are equivalent to the nonmetallic portion being between metallic portions, either from one portion or two separate portions. The seal ring will provide an 'interference fit' within the inner perimeter of the chamber.

It would have been obvious one of ordinary skill in the art to modify Nennecker with the nonmetallic portion between two metallic portions as taught by Takizawa because it provides a seal for the valve within the chamber.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection. Csongor teaches the introduction of air into the melted plastic in a mold within a screw, which can be substituted with a plunger. Additionally, Takizawa teaches the nonmetallic portions and metallic portions of the piston.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Thursday 8 to 5 and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Davis can be reached on (571) 272-1129. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL

Joseph S Del Sole  
11/14/05  
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